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10/550,836

09/23/2005

Naoto Yumiki

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EXAMINER

STRIEB, MICHAEL A

ART UNIT

PAPER NUMBER

2809

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DELIVERY MODE

10/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,836

Applicant(s)

YUMIKI ET AL.

Examiner

Michael A. Strieb

Art Unit

2809

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9/23/2005
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-3 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding **claims 1 and 3**, the word "may" in the phrase "the cylindrical portion of the demating prevention pin may contact the first protrusion" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding **claims 2 and 5**, the word "may" in the phrase "the cylindrical portion of the demating prevention pin may contact the second protrusion" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Regarding **claims 2 and 5**, the limitation "a second protrusion" is recited. There is insufficient antecedent basis for this limitation in the claims. Having a second protrusion necessitates the existence of a first protrusion. Neither claim 2 nor claim 5 provide for a first protrusion.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsuhsa et al (JP 2001-183722) in view of Nomura et al (US 5,765,048).

Regarding **claim 1**, Mitsuhsa et al disclose a collapsible lens barrel whose lens group is advanced when an image is captured, the collapsible lens barrel comprising a driving frame for driving the lens group, comprising a cam pin and a demating prevention pin that have an identical shape including a cylindrical portion and a tapered portion at its tip (Drawings 3-4) and a cam frame comprising a cam groove and a demating prevention groove that mate with the cam pin and the demating prevention pin, respectively (Drawings 3-4).

Mitsuhsa et al do not disclose a first protrusion provided on at least one side in an optical axis direction of a portion of the demating prevention groove with which the demating prevention pin mates when the driving frame is advanced; wherein, in a state where the lens group has been advanced, the cylindrical portion of the demating prevention pin contacts the first protrusion to prevent the cam pin from demating from the cam groove.

Nomura et al disclose a first protrusion provided on at least one side in an optical axis direction of a portion of the demating prevention groove with which the demating

Art Unit: 2809

prevention pin mates; wherein the cylindrical portion of the demating prevention pin contacts the first protrusion to prevent the cam pin from demating from the cam groove (column 3, lines 41-47). Nomura et al discloses this for the case when the lens barrel is retracted. However, at the time of the invention, it would have been obvious to one of ordinary skill in the art to apply the same method to prevent demating in the case where the lens barrel is advanced.

At the time of the invention, it would have been obvious to a person having ordinary skill in the art to combine Nomura et al with Mitsuhsa et al. The motivation would have been to prevent the moving barrel from coming out of the cam ring, thus preventing damage to the lens barrel.

Therefore, it would have been obvious to combine Nomura et al with Mitsuhsa et al to obtain the invention as disclosed in claim 1.

Regarding **claim 2**, Mitsuhsa et al disclose all of the limitations as applied to claim 1 above.

Mitsuhsa et al do not disclose a protrusion provided on at least one side in an optical axis direction of a portion of the demating prevention groove with which the demating prevention pin mates when the driving frame is retracted; wherein, in a state where the lens group has been retracted, the cylindrical portion of the demating prevention pin contacts the first protrusion to prevent the cam pin from demating from the cam groove.

Nomura et al disclose a protrusion provided on at least one side in an optical axis direction of a portion of the demating prevention groove with which the demating

Art Unit: 2809

prevention pin mates when the driving frame is retracted; wherein, in a state where the lens group has been retracted, the cylindrical portion of the demating prevention pin contacts the first protrusion to prevent the cam pin from demating from the cam groove (column 3, lines 41-47).

At the time of the invention, it would have been obvious to a person having ordinary skill in the art to combine Nomura et al with Mitsuhusa et al. The motivation would have been to prevent the moving barrel from coming out of the cam ring, thus preventing damage to the lens barrel.

Therefore, it would have been obvious to combine Nomura et al with Mitsuhusa et al to obtain the invention as disclosed in claim 2.

Regarding **claim 3**, Mitsuhusa et al disclose a collapsible lens barrel whose lens group is advanced when an image is captured and whose lens group is retracted when the image is not captured, the collapsible lens barrel comprising a driving frame for driving the lens group, comprising a cam pin and an demating prevention pin that have an identical shape including a cylindrical portion and a tapered portion at its tip (Drawings 3-4); and a cam frame comprising a cam groove and a demating prevention groove that mate with the cam pin and the demating prevention pin, respectively (Drawings 3-4).

Mitsuhusa et al do not disclose a first protrusion provided on at least one side in an optical axis direction of a portion of the demating prevention groove with which the demating prevention pin mates when the driving frame is advanced. Further, Mitsuhusa et al do not disclose a second protrusion provided on at least one side in the optical axis

Art Unit: 2809

direction of a portion of the demating prevention groove with which the demating prevention pin mates when the driving frame is retracted. Further, Mitsuhusa et al do not disclose wherein, in a state where the lens group has been advanced, the cylindrical portion of the demating prevention pin contacts the first protrusion to prevent the cam pin from demating from the cam groove, and in a state where the lens group has been retracted, the cylindrical portion of the demating prevention pin contacts the second protrusion to prevent the cam pin from demating from the cam groove.

Nomura et al disclose a first protrusion provided on at least one side in an optical axis direction of a portion of the demating prevention groove with which the demating prevention pin mates; wherein the cylindrical portion of the demating prevention pin contacts the first protrusion to prevent the cam pin from demating from the cam groove (column 3, lines 41-47). Nomura et al discloses this for the case when the lens barrel is retracted. However, at the time of the invention, it would have been obvious to one of ordinary skill in the art to apply the same method to prevent demating in the case where the lens barrel is advanced as well.

At the time of the invention, it would have been obvious to a person having ordinary skill in the art to combine Nomura et al with Mitsuhusa et al. The motivation would have been to prevent the moving barrel from coming out of the cam ring, thus preventing damage to the lens barrel.

Therefore, it would have been obvious to combine Nomura et al with Mitsuhusa et al to obtain the invention as disclosed in claim 3.

Regarding **claim 5**, Mitsuhusa et al disclose a collapsible lens barrel whose lens group is retracted when an image is not captured, the collapsible lens barrel comprising: a driving frame for driving the lens group, comprising a cam pin including a cylindrical portion and a tapered portion at its tip; and a cam frame comprising a cam groove that mates with the cam pin (Drawings 3-4).

Mitsuhusa et al do not disclose a protrusion provided on at least an object side in an optical axis direction of a portion of the cam groove with which the cam pin mates when the driving frame is retracted; wherein, in a state where the lens group has been retracted, the cam pin contacts the protrusion to prevent the cam pin from demating from the cam groove.

Nomura et al disclose a protrusion in an optical axis direction of a portion of the cam groove with which the cam pin mates when the driving frame is retracted; wherein in a state where the lens group has been retracted, the cam pin contacts the protrusion to prevent the cam pin from demating from the cam groove. Nomura et al do not specify that the protrusion is on the object side of a portion of the cam groove, but as there are a finite number of places to position such a protrusion, it would have been obvious for one of ordinary skill to try said finite number of places.

At the time of the invention, it would have been obvious to a person having ordinary skill in the art to combine Nomura et al with Mitsuhusa et al. The motivation would have been to prevent the moving barrel from coming out of the cam ring, thus preventing damage to the lens barrel.

Art Unit: 2809

Therefore, it would have been obvious to combine Nomura et al with Mitsuhsa et al to obtain the invention as disclosed in claim 5.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Takeshita et al (US 6,606,206 B2) "Impact absorbent shifting device"

Kazuo Nakagawa (JP 1999-211963) "Optical apparatus"

Kobayashi (US 6,714,359 B2) "Lens barrel and cam ring"


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Strieb whose telephone number is 571-270-3528. The examiner can normally be reached on Monday-Friday 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Tieu can be reached on (571) 272-7490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2809

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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